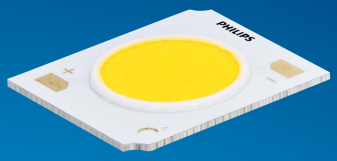
PHILIPS

Fortimo

LED

Fortimo SLM C 8xx 1206
L13 2024 G8 HE



Datasheet

Best combination of quality of light and efficacy

Fortimo LED SLM CRI80 G8 HE

Philips continues to develop its tried and trusted high efficiency COB range of products (since 2020) by introducing the third generation Fortimo SLM G8 HE with an expanded offer featuring CRI 80 products. The Fortimo SLM CRI80 G8 HE range boasts an impressive 7% - 12% increase in efficacy and enhanced color consistency of 2 SDCM compared to its predecessor, the Fortimo SLM CRI80 G7. Drawing on our four years of industry and R&D experience with high efficacy COB platforms, we have further optimized the quality of light and enhanced the product's robustness. With the Color Rendering Index extension, Fortimo SLM G8 HE helps unlock the extraordinary potential of light, facilitating innovation and inspiring the next generation of luminaire design for our OEM customers. Check out the online Easy Design-in Tool for your perfect system combination (www.easydesignintool.com).

Key features and benefits

- Best quality of light available for all applications
- 7%~12% efficacy improvement vs. current Fortimo SLM G7 CRI80 range
- Excellent color consistency management (2 SDCM)
- System proposition (Module + Driver + Holder)
- Flexibility to optimize luminaire performance (high efficacy or high lm output)
- 50,000 hours lifetime

October 2024









Ordering data

Commercial product name	EOC	12NC	EPREL registration #	Box quantity
Fortimo SLM C 827 1206 L13 2024 G8 HE	8720169 378049 00	9290 038 89580	2093708	20
Fortimo SLM C 830 1206 L13 2024 G8 HE	8720169 378070 00	9290 038 89680	2093697	20
Fortimo SLM C 835 1206 L13 2024 G8 HE	8720169 378100 00	9290 038 89780	2093678	20
Fortimo SLM C 840 1206 L13 2024 G8 HE	8720169 378131 00	9290 038 89880	2093707	20
Fortimo SLM C 850 1206 L13 2024 G8 HE	8720169 378162 00	9290 038 89980	2093695	20
Fortimo SLM C 830 PW 1206 L13 2024 G8 HE	8720169 378193 00	9290 038 90080	2093703	20

Not all products are globally available by default.
Please contact your local sales representative for local availability and activation conditions.

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo SLM C 8xx 1206 L13 2024 G8 HE	600	1080	1080	mA

Module temperatures

Parameter	Nominal*	Life**	Max***	Unit
T_c (case temperature at T_c point)	65	95	95	°C

* Nominal value at which typical performance is specified

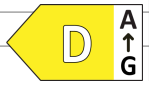
** Value at which life time is specified

*** Maximum value for safe operation, do not operate above this value

Optical characteristics - table per color (CCT)

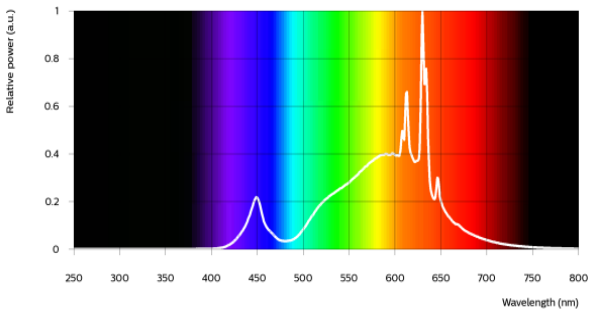
Fortimo SLM C 827 1206 L13 2024 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	3249	3420	3762	lm
Efficacy		164		lm/W
Correlated color temperature (CCT)		2700		K
Color coordinates (CIEx, CIEy)		(0.458, 0.410)		-
Color consistency			2	SDCM
CRI	80			
R9	>0			
Photometric code		827/259		
Photobiological safety		RG1 unlimited		



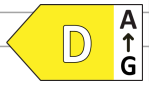
Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Operation point	827	lm	lm/W
80% I-nom 480mA	Tc 25 °C	2940	178
	Tc-nom 65 °C	2783	171
	Tc-max 95 °C	2640	164
I-nom 600mA	Tc 25 °C	3615	172
	Tc-nom 65 °C	3420	164
	Tc-max 95 °C	3243	157
I-max 1080mA	Tc 25 °C	6134	150
	Tc-nom 65 °C	5789	143
	Tc-max 95 °C	5476	137



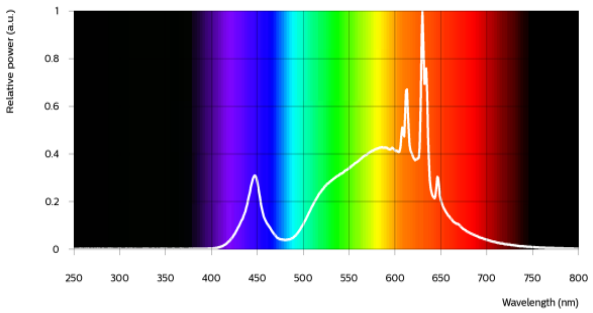
Fortimo SLM C 830 1206 L13 2024 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	3349	3525	3878	lm
Efficacy		169		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.434, 0.403)		-
Color consistency			2	SDCM
CRI	80			
R9	>0			
Photometric code		830/259		
Photobiological safety		RG1 unlimited		



Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Operation point	830	lm	lm/W
80% I-nom 480mA	Tc 25 °C	3030	184
	Tc-nom 65 °C	2868	176
	Tc-max 95 °C	2721	169
I-nom 600mA	Tc 25 °C	3726	177
	Tc-nom 65 °C	3525	169
	Tc-max 95 °C	3342	162
I-max 1080mA	Tc 25 °C	6322	155
	Tc-nom 65 °C	5968	148
	Tc-max 95 °C	5645	141



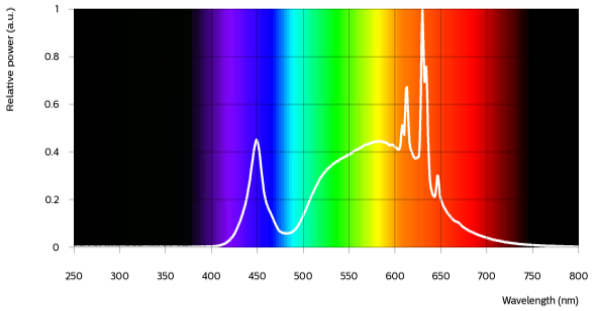
Fortimo SLM C 835 1206 L13 2024 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	3430	3610	3971	lm
Efficacy		174		lm/W
Correlated color temperature (CCT)		3500		K
Color coordinates (CIEx, CIEy)		(0.407, 0.392)		-
Color consistency			2	SDCM
CRI	80			
R9	>0			
Photometric code		835/259		
Photobiological safety		RG1 unlimited		



Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Operation point	835	lm	lm/W
80% I-nom 480mA	Tc 25 °C	3103	188
	Tc-nom 65 °C	2937	180
	Tc-max 95 °C	2786	173
I-nom 600mA	Tc 25 °C	3816	182
	Tc-nom 65 °C	3610	174
	Tc-max 95 °C	3423	166
I-max 1080mA	Tc 25 °C	6475	158
	Tc-nom 65 °C	6112	151
	Tc-max 95 °C	5783	144



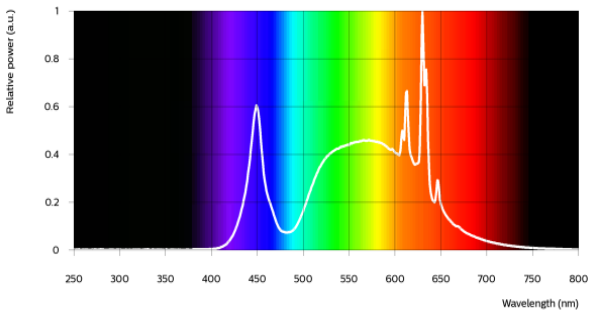
Fortimo SLM C 840 1206 L13 2024 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	3448	3630	3993	lm
Efficacy		175		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.382, 0.380)		-
Color consistency			2	SDCM
CRI	80			
R9	>0			
Photometric code		840/259		
Photobiological safety		RG1 unlimited		



Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Operation point	840	lm	lm/W
80% I-nom 480mA	Tc 25 °C	3120	189
	Tc-nom 65 °C	2953	181
	Tc-max 95 °C	2802	174
I-nom 600mA	Tc 25 °C	3837	183
	Tc-nom 65 °C	3630	175
	Tc-max 95 °C	3442	167
I-max 1080mA	Tc 25 °C	6511	159
	Tc-nom 65 °C	6147	152
	Tc-max 95 °C	5815	145



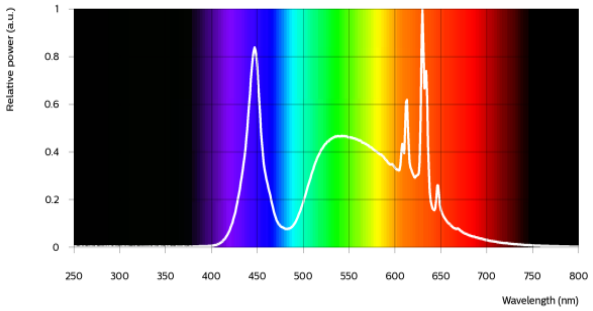
Fortimo SLM C 850 1206 L13 2024 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	3434	3615	3976	lm
Efficacy		174		lm/W
Correlated color temperature (CCT)		5000		K
Color coordinates (CIEx, CIEy)		(0.345, 0.355)		-
Color consistency			2	SDCM
CRI	80			
R9	>0			
Photometric code		850/259		
Photobiological safety		RG1 unlimited		



Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Operation point	850	lm	lm/W
80% I-nom 480mA	Tc 25 °C	3107	188
	Tc-nom 65 °C	2941	180
	Tc-max 95 °C	2790	173
I-nom 600mA	Tc 25 °C	3821	182
	Tc-nom 65 °C	3615	174
	Tc-max 95 °C	3428	166
I-max 1080mA	Tc 25 °C	6485	159
	Tc-nom 65 °C	6123	152
	Tc-max 95 °C	5793	144



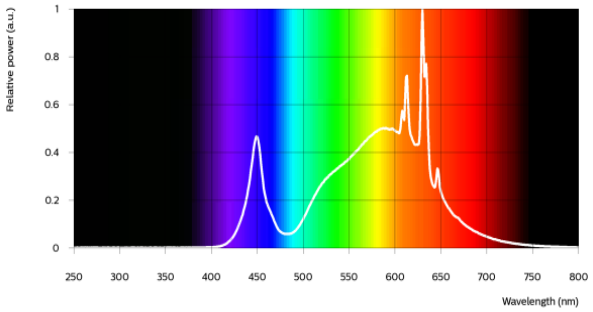
Fortimo SLM C 830 PW 1206 L13 2024 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	3301	3475	3822	lm
Efficacy		167		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.422, 0.386)		-
Color consistency			2	SDCM
CRI	80			
R9	>0			
Photometric code		830/259		
Photobiological safety		RG1 unlimited		

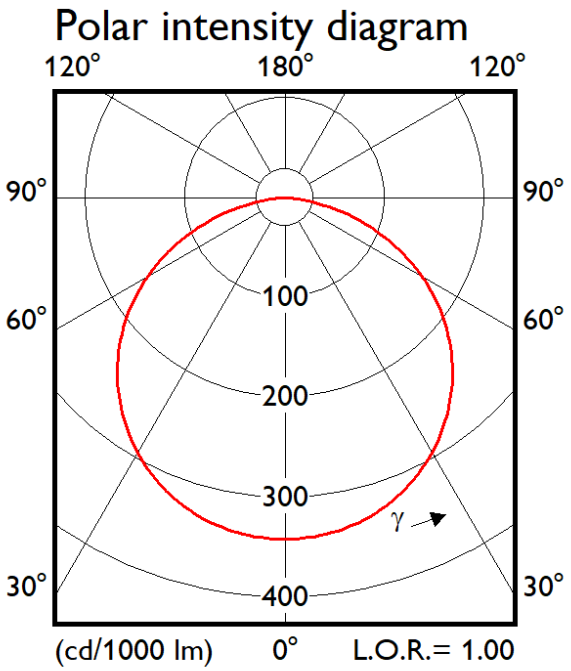


Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Operation point	830	lm	lm/W
80% I-nom 480mA	Tc 25 °C	2987	181
	Tc-nom 65 °C	2827	173
	Tc-max 95 °C	2682	167
I-nom 600mA	Tc 25 °C	3673	175
	Tc-nom 65 °C	3475	167
	Tc-max 95 °C	3295	160
I-max 1080mA	Tc 25 °C	6233	152
	Tc-nom 65 °C	5883	146
	Tc-max 95 °C	5566	139



Beam shape


Polar intensity diagram
120°
180°
120°
90°
90°
60°
60°
100
200
300
γ
30°
30°
400
(cd/1000 lm)
0°
L.O.R.= 1.00

Electrical characteristics

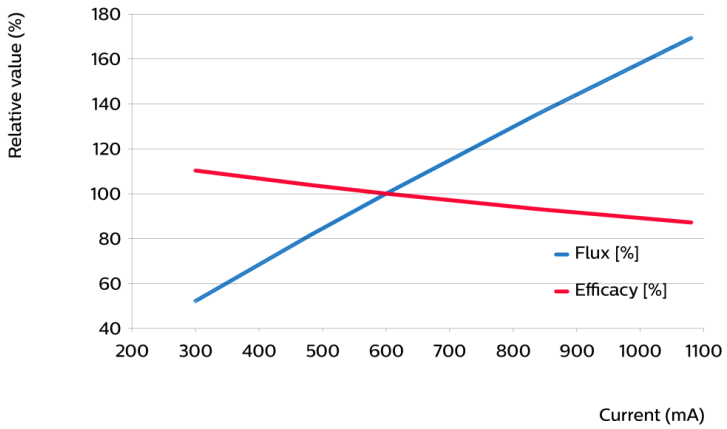
Parameter	Min	Typ	Max	Unit
Forward voltage	32.5	34.7	37.0	V
Power consumption	19.5	20.8	22.2	W = kWh/1000h
Number of modules in series per chain			1	
Number of modules per chain			1	
Number of modules in parallel			1	

Measurement precision for Vf +/- 3%. Measurement precision for power +/- 3.3%

Tuning information

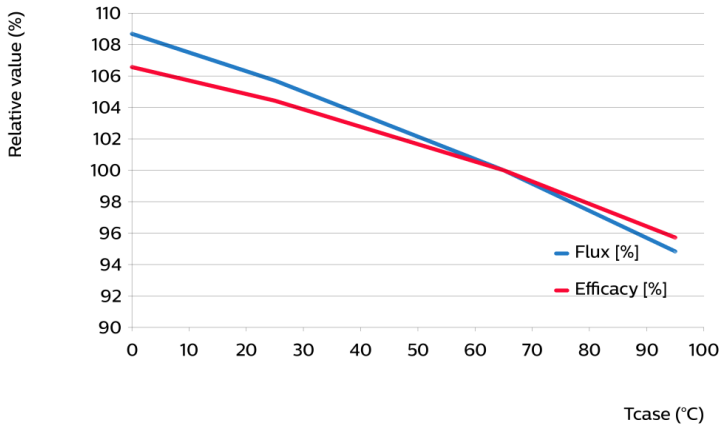
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
1080	169	87
840	136	93
600	100	100
480	81	104
300	52	110



Flux and efficacy versus temperature at Tc (at I nominal)

Tc [°C]	Flux [%]	Efficacy [%]
95	95	96
65	100	100
25	106	104
0	109	107



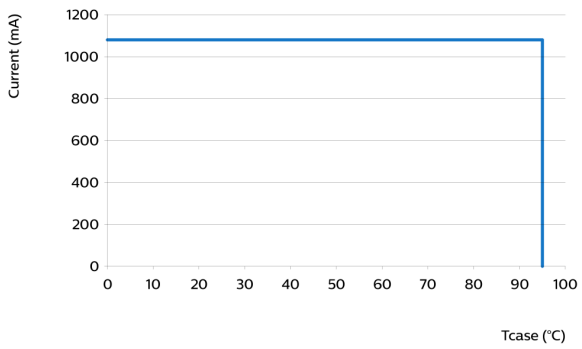
Lumen maintenance

Operation point	Lumen maintenance	L70			L80			L90		
	x 1000 hours	B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I-nom 480mA	Tc 50°C	>66	>66	>66	>66	>66	>66	>66	>66	>66
	Tc 65°C	>66	>66	>66	>66	>66	>66	>66	>66	>66
	Tc 95°C	>66	>66	>66	>66	>66	>66	>66	>66	>66
I-nom 600mA	Tc 50°C	>66	>66	>66	>66	>66	>66	>66	>66	>66
	Tc 65°C	>66	>66	>66	>66	>66	>66	>66	>66	>66
	Tc 95°C	>66	>66	>66	>66	>66	>66	>66	56	51
I-max 1080mA	Tc 50°C	>66	>66	>66	>66	>66	>66	50	42	39
	Tc 65°C	>66	>66	>66	>66	>66	62	38	32	29
	Tc 95°C	>66	>66	60	49	41	38	23	19	17

Lifetime

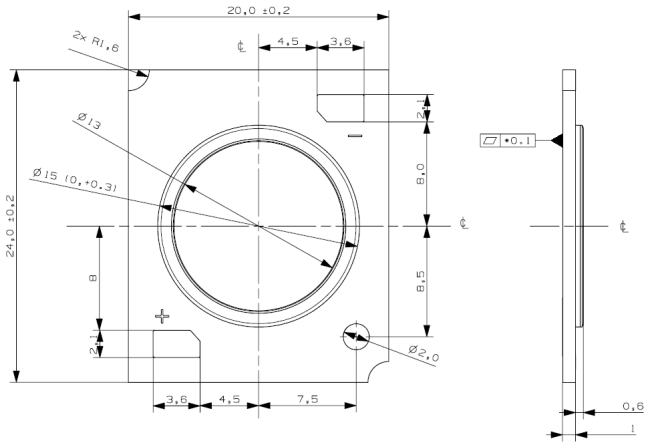
Parameter	Value	Unit
M70F50 nominal	>66000	hours

Performance Window



Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	23.8	24	24.2	mm
Width	19.8	20	20.2	mm
Height	0.9	1	1.1	mm
Height	1.3	1.6	1.9	mm
Product mass		1.31		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		1080	mA
Case temperature (Tc-max)		95	°C
ESD (direct contact)	8		kV
Working voltage		60	V_{dc}
Ambient temperature	-20	40	°C
Storage temperature	-40	80	°C

At illumination levels exceeding 1342 lux risk group classification may be RG2.

Application information

Certificates and Standards
CB
CE
ENEC
ENEC+
EPRS 001
IEC 62031
UKCA
UL
UL 8750

Environmental
RoHS/REACH

Application	
Dimming	Yes



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11/10/2024

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